SEKK

SUMMARY STATISTICS

EQA round: DIF4/21 - Peripheral Blood Morphology Evaluation

Deadline (EQA round closed): 29.10.2021

Key:
ELG ... expert laboratories group
AV, >>> ... assigned value type CVE (consensus of ELG)
RAR ... range of acceptable results
RoM ... robust average of all results
> ... possible result (found by ELG, but consensus not reached)

	Sample A AV	Sample A RAR	Sample A RoM	Sample B AV	Sample B RAR	Sample B RoM
WBC - differential count						
Blasts	0,010	0,001 - 0,036	0,008	0	0,000 - 0,018	0,000
Promyelocytes	0,001	0,000 - 0,018	0,001	0	0,000 - 0,018	0,000
Neutrophil myelocytes	0,028	0,000 - 0,064	0,027	0	0,000 - 0,018	0,000
Neutrophil metamyelocytes	0,035	0,014 - 0,071	0,033	0	0,000 - 0,018	0,000
Neutrophil bars	0,068	0,039 - 0,115	0,065	0,005	0,000 - 0,028	0,007
Segmented neutrophil granulocytes	0,602	0,529 - 0,668	0,581	0,389	0,322 - 0,461	0,380
Eosinophils - immature forms	0	0,000 - 0,018	0,000	0	0,000 - 0,018	0,002
Eosinophil segmented granulocytes	0,002	0,000 - 0,018	0,003	0,160	0,112 - 0,218	0,166
Basophilic granulocytes	0,007	0,000 - 0,028	0,006	0,014	0,003 - 0,043	0,013
Monocytes	0,047	0,021 - 0,084	0,057	0,065	0,035 - 0,109	0,062
Lymphocytes	0,202	0,147 - 0,262	0,215	0,369	0,303 - 0,441	0,368
Plasma cells	0	0,000 - 0,018	0,000	0	0,000 - 0,018	0,000
Erythroblasts (number)	1,000	0,000 - 4,000	1,001	0	0,000 - 2,000	0,000

WBC - morphology

Sample A			Sample B		
> 31	No changes	20 %	> 53	No changes	34 %
7	Hypergranulation/toxic granulation	4,5 %	1	Agranulation	0,6 %
3	Giant bands and metamyelocytes	1,9 %	3	Hypersegmented granulocytes	1,9 %
32	Agranulation	21 %	1	Döhle bodies	0,6 %
> 29	Hypersegmented granulocytes	19 %	2	Atypical/reactive/pathological monocytes/promono.	1,3 %
9	Hyposegmentation / asegmentation / pelgeroid	5,8 %	> 62	Denuded nuclei/cells, nuclear shadows / smudge cells	40 %
1	Döhle bodies	0,6 %	> 19	Vacuolisation	12 %
8	Atypical/reactive/pathological monocytes/promono.	5,2 %	24	LGL/big lymphocytes	15 %
16	Denuded nuclei/cells, nuclear shadows / smudge cells	10 %	20	Lymphocytes - reactive forms	13 %
> 77	Vacuolisation	50 %	> 18	Lymphocytes - atypical forms (except "hairy")	12 %
2	LGL/big lymphocytes	1,3 %	1	Nucleus fragments of neutrophiles	0,6 %
11	Lymphocytes - reactive forms	7,1 %			
13	Lymphocytes - atypical forms (except "hairy")	8,4 %			
1	Nucleus fragments of neutrophiles	0,6 %			

WBC - relative changes of count

Sample A			Sample B		
4	Normal count	2,6 %	>>> 126	Neutropenia	81 %
> 48	Neutrophilia	31 %	1	Neutrophilia	0,6 %
> 31	Lymphocytopenia	20 %	>>> 155	Eosinophilia	100 %
3	Basophilia	1,9 %	> 47	Basophilia	30 %
3	Monocytosis	1,9 %	2	Monocytosis	1,3 %
1	Monocytopenia	0,6 %	2	Left shift	1,3 %
>>> 151	Left shift	97 %			

RBC - morphology

Sample A			Sample B		
1	No changes	0,6 %	> 73	No changes	47 %
4	Normocytosis	2,6 %	> 58	Normocytosis	37 %
1	Microcytosis	0,6 %	5	Anisocytosis	3,2 %
3	Macrocytosis	1,9 %	1	Poikilocytosis	0,6 %
>>> 150	Anisocytosis	97 %	> 32	Eliptocytes, ovalocytes	21 %
47	Poikilocytosis	30 %	1	Spherocytes	0,6 %
>>> 144	Eliptocytes, ovalocytes	93 %	3	Stomatocytes	1,9 %
16	Spherocytes	10 %	1	Dacryocytes	0,6 %
>>> 98	Stomatocytes	63 %	> 10	Acanthocytes	6,5 %
1	Drepanocytes	0,6 %	36	Echinocytes	23 %
>>> 152	Dacryocytes	98 %	1	Target cells	0,6 %

DIF4/21 - Peripheral Blood Morphology Evaluation

	Sample A			Sample B	
RBC - morphology					
2	Echinocytes	1,3 %	9	Schistocytes (and other fragmentocytes)	5,8 %
> 35	Schistocytes (and other fragmentocytes)	23 %	2	Howell-Jolly bodies	1,3 %
> 52	Polychromasia	34 %	> 23	Rouleaux formation	15 %
17	Basophilic stippling	11 %	1	RBC agglutination	0,6 %
4	Howell-Jolly bodies	2,6 %			
1	Parasite inclusions (eg. malaric plasmodia)	0,6 %			
Platelets - morphology					
4	No changes	2,6 %	>>> 111	No changes	72 %
>>> 151	Large platelets	97 %	38	Large platelets	25 %
6	Small platelets	3,9 %	9	Small platelets	5,8 %
3	Platelet aggregates	1,9 %	3	Platelets hypogranulation	1,9 %
1	Platelet satellitism	0,6 %			
> 44	Platelets hypogranulation	28 %			
> 6	Megakaryocytic nucleus fragments	3,9 %			
Clinical recommendation - smear					
>>> 154	Blood smear is pathological	99 %	>>> 136	Blood smear is pathological	88 %
1	Blood smear within physiological limits or with reactive changes	0,6 %	18	Blood smear within physiological limits or with reactive changes	12 %
Clinical recommendation - examination					
>>> 154	An examination by the specialist/haematologist is recommended	99 %	>>> 124	An examination by the specialist/haematologist is recommended	80 %
1	An examination by the specialist/haematologist is not necessary	0,6 %	30	An examination by the specialist/haematologist is not necessary	19 %
Diagnosis - anaemia					
1	Exact determination impossible	0,6 %	7	Exact determination impossible	4,5 %
4	Normocytosis	2,6 %	>>> 67	Normocytosis	43 %
1	Thalassemia and other congenital anaemias	0,6 %			
Diagnosis - myelodysplastic syndrome					
18	Myelodysplastic syndrome	12 %			
Diagnosis - chronic myeloproliferative disease					
>>> 78	Exact determination impossible	50 %	8	Exact determination impossible	5,2 %
5	CML (chronic myelogenous leukaemia)	3,2 %			
>>> 64	Myelofibrosis	41 %			
Diagnosis - mature lymphocytic cells neoplasms					
2	Exact determination impossible	1,3 %	5	Exact determination impossible	3,2 %
			1	CLL (chronic lymphocytic leukaemia)	0,6 %
Diagnosis - platelets disorders					
1	Other findings	0,6 %	1	Thrombocytopenia	0,6 %
Diagnosis - other					
2	Viral infection incl. inf. mononucleosis	1,3 %	23	Parasitic infection	15 %
1	Parasitic infection	0,6 %	29	Other reactive changes	19 %
4	Other reactive changes	2,6 %	> 65	Allergy	42 %
5	Other disease	3,2 %	> 36	Other disease	23 %
Smear quality					
153	Acceptable	99 %	151	Acceptable	97 %
1	Not acceptable (give a reason)	0,6 %	3	Not acceptable (give a reason)	1,9 %
Staining					
146	Acceptable	94 %	146	Acceptable	94 %
8	Not acceptable (give a reason)	5,2 %	8	Not acceptable (give a reason)	5,2 %

Evaluation of the results - scoring system DIF4/21

Sample A	Sample B
Maximal achievable score: 87	**Maximal achievable score: 69**
Successful participants (success 60 % and more): 153 (it is 99 %)	Successful participants (success 60 % and more): 151 (it is 97 %)
Minimal success in this round: 55,2 %	Minimal success in this round: 53,6 %
Maximal success in this round: 100,0 %	Maximal success in this round: 100,0 %

Number of participants: 155

Number of the participants that succeeded:
- in both samples: 150 (it is 97 %)
- in one sample: 4 (it is 3 %)
- in no sample: 1 (it is 1 %)